

The Examiner asserts, however, that one of ordinary skill would have found it obvious to employ the recited deviation of UV photosensitivity "since it has been held that discovering an optimum value of result effective variable involves only routine skill in the art."

In rejecting a claim under 35 USC §103(a), the Office is required to identify a source in the applied prior art for the claim limitations and the motivation to modify a reference in the reasonable expectation of achieving a particular benefit. **Smiths Industries Medical System v. Vital Signs Inc.**, 183, F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999). The requisite motivation to support the ultimate legal conclusion of obviousness under 35 USC §103 is not an abstract concept, but must stem from the applied prior art as a whole and have realistically impelled one having ordinary skill in the art to modify a specific reference to arrive at a specifically claimed invention. **In re Deuel**, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); **In re Newell**, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1980). Moreover, a generalization does not establish the requisite motivation to modify a specific reference in a specific manner to arrive at a specifically claimed invention. **In re Deuel, supra**.

Except for the Examiner's merely conclusionary statements about what a skilled artisan could hypothetically have done, no teaching is found anywhere except in the present application about controlling the distribution of UV photosensitivity as recited in claims 1-5. Accordingly, Applicants assert that, without hindsight improperly based on the present application, Dong et al. do not disclose or suggest all the features recited in claims 1-5 nor do Dong et al. provide any motivation for the extrapolation of its teachings as proposed by the Examiner. Therefore, reconsideration and withdrawal of the rejection

under 35 USC §103(a) of claims 1-5 are respectfully requested.

Specifically, Dong et al. disclose a fiber comprising a core region with UV photosensitivity, an inner cladding region with UV photosensitivity, and an outer cladding region. While the UV photosensitivity in the core region is different than that of the inner cladding region, in Dong et al., no mention or recognition of the distribution of the UV photosensitivity in the inner cladding region is made.

It has been known that the cladding mode coupling loss can be reduced when a refractive index modulation is formed not only in the core region but also in the inner cladding region of the photosensitive cladding fiber. The conventional technique, as exemplified by Dong et al., however, may not fully reduce the cladding mode loss, thus a loss of 0.5db remains (see Dong et al., column 7, lines 20-32).

In direct contrast, embodiments of the present invention control the distribution of the UV photosensitivity in the inner cladding region for a deviation to be $\pm 10\%$ or less. This configuration makes it possible to reduce the cladding mode coupling loss to about one tenth of the loss contemplated or even possible using the techniques of Dong et al. (i.e., about 0.1dB).

Applicants urge that no prior art mentions or recognizes controlling the distribution of UV photosensitivity in the inner cladding region and, therefore, it would not have been obvious to one of ordinary skill to employ the configuration recited in claim 1 (and claims 2-5). Furthermore, the distribution of UV photosensitivity in both the core region and the cladding region is controlled in the present invention. The difference between an average value of UV photosensitivity in the core region and an average value of UV sensitivity in the inner cladding region is 10% or less in a fiber

according to claim 2. The deviation of UV photosensitivity over both of the core region and the inner cladding region is $\pm 10\%$ or less in a fiber according to claim 3 and $\pm 5\%$ or less in a fiber according to claim 4. As is apparent from these claims, the result is that UV photosensitivity distribution is preferably constant over both the inner cladding region and the core region.

In direct contrast, Dong et al. teaches that the photosensitive region of the inner cladding preferably has a higher photosensitivity than that of the core region (see column 6, lines 40-42) and they specifically teach that a larger photosensitive cladding would enhance the suppression of coupling into cladding modes or radiation modes. Dong et al., therefore, teach one of ordinary skill that large differences between the UV photosensitivities are desirable. Accordingly, the teachings of Dong et al. are diametrically opposed to that of the present invention and claims.

Applicants urge that one of ordinary skill in the art would not have been motivated to extrapolate the disclosure of Dong et al. in a manner contrary to its express teachings in an attempt to arrive at the present invention as recited in claims 1-5. Without a cogent explanation of why one of ordinary skill would have been realistically impelled to modify the teachings of Dong et al., Applicants urge that a *prima facie* case of obviousness has not been properly established with respect to claims 1-5. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC 103 of claims 1-5.

SUMMARY

In view of the above remarks, Applicants believe claims 1-5 are in condition for allowance and passage of this case to issue is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

Wesley L. Strickland
Wesley L. Strickland
Registration No. 44,363

600 13th Street, N.W.
Washington, DC 20005-3096
(202) 756-8000 WLS:MWE
Date: March 11, 2003
Facsimile: (202) 756-8087